
Welcome

Tsunami Marine Debris Roundtable Discussion

Hosted by Senator Lisa Murkowski



Peter Murphy, NOAA Marine Debris Program

Kristin Ryan and Dr. Ward Hurlburt, State of Alaska

Dave Gaudet, Marine Conservation Alliance Foundation

Marine Debris

NOAA Marine Debris Program | Office of Response and Restoration | NOAA National Ocean Service



Japan Tsunami Marine Debris: Information and action

Town Hall
University of Alaska Anchorage
January 20, 2012

Peter Murphy
Alaska Coordinator
NOAA Marine Debris Program

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Outline

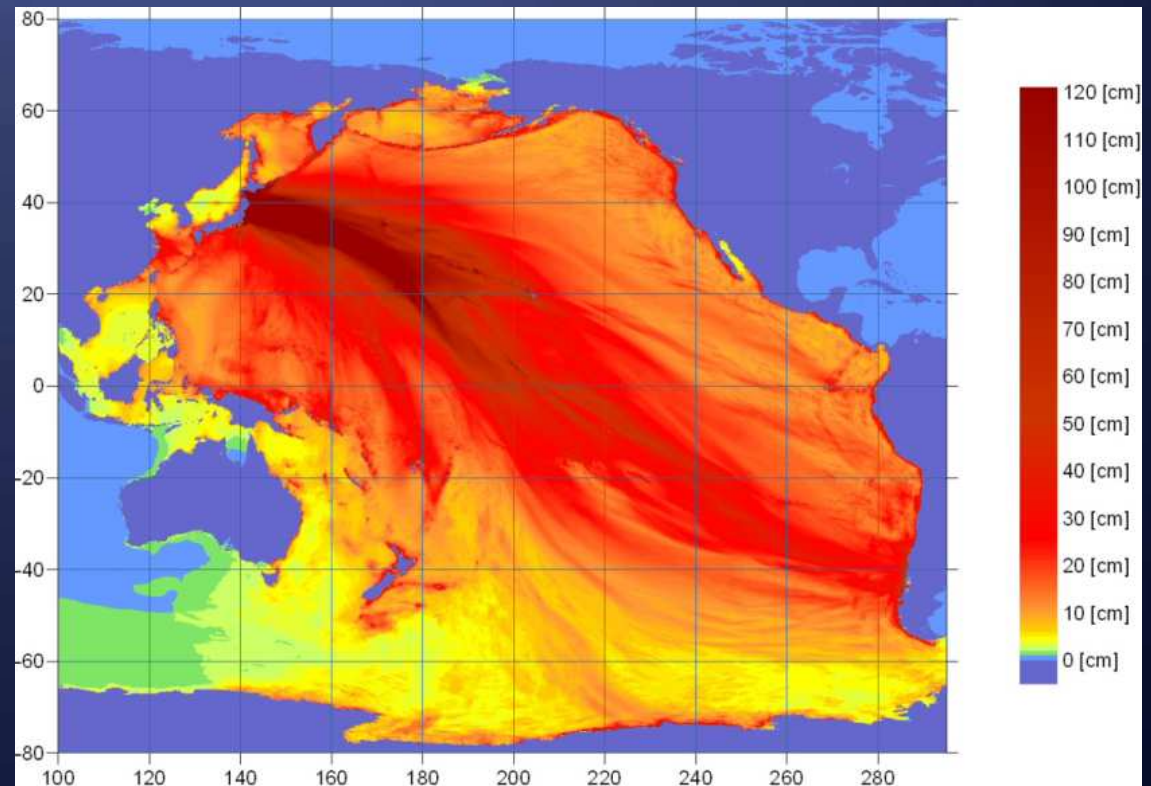
- Background
- What we know
- What we are doing
- What you can do
- Questions?





Tsunami Event

- 9.0 magnitude earthquake
- 130 ft max wave height
- 217 square miles inundation
- 15,844 people confirmed dead, 3,451 missing



NOAA's ocean energy distribution forecast map of the 2011 Japan tsunami

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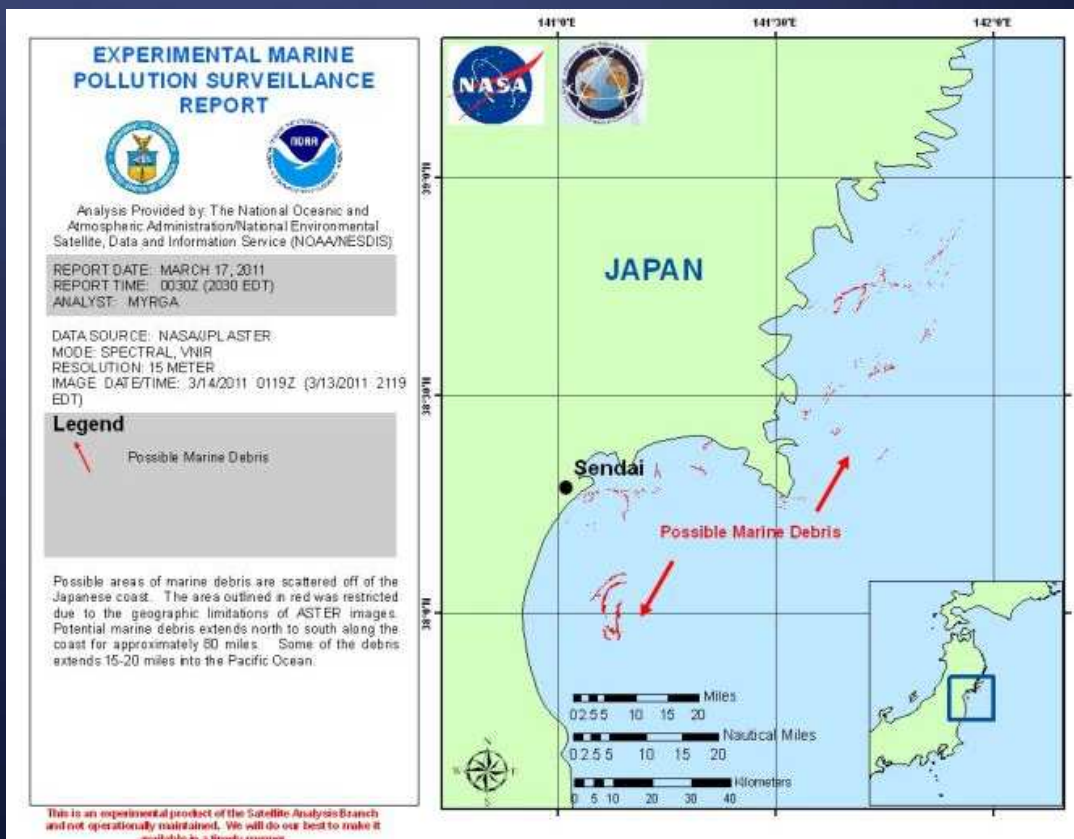
Marine Debris – Early Sightings



Photos: US Navy Pacific Fleet

Aerial Imagery – March 13

- Patches and fields
- Wood, construction materials abundant



Satellite Imagery – March

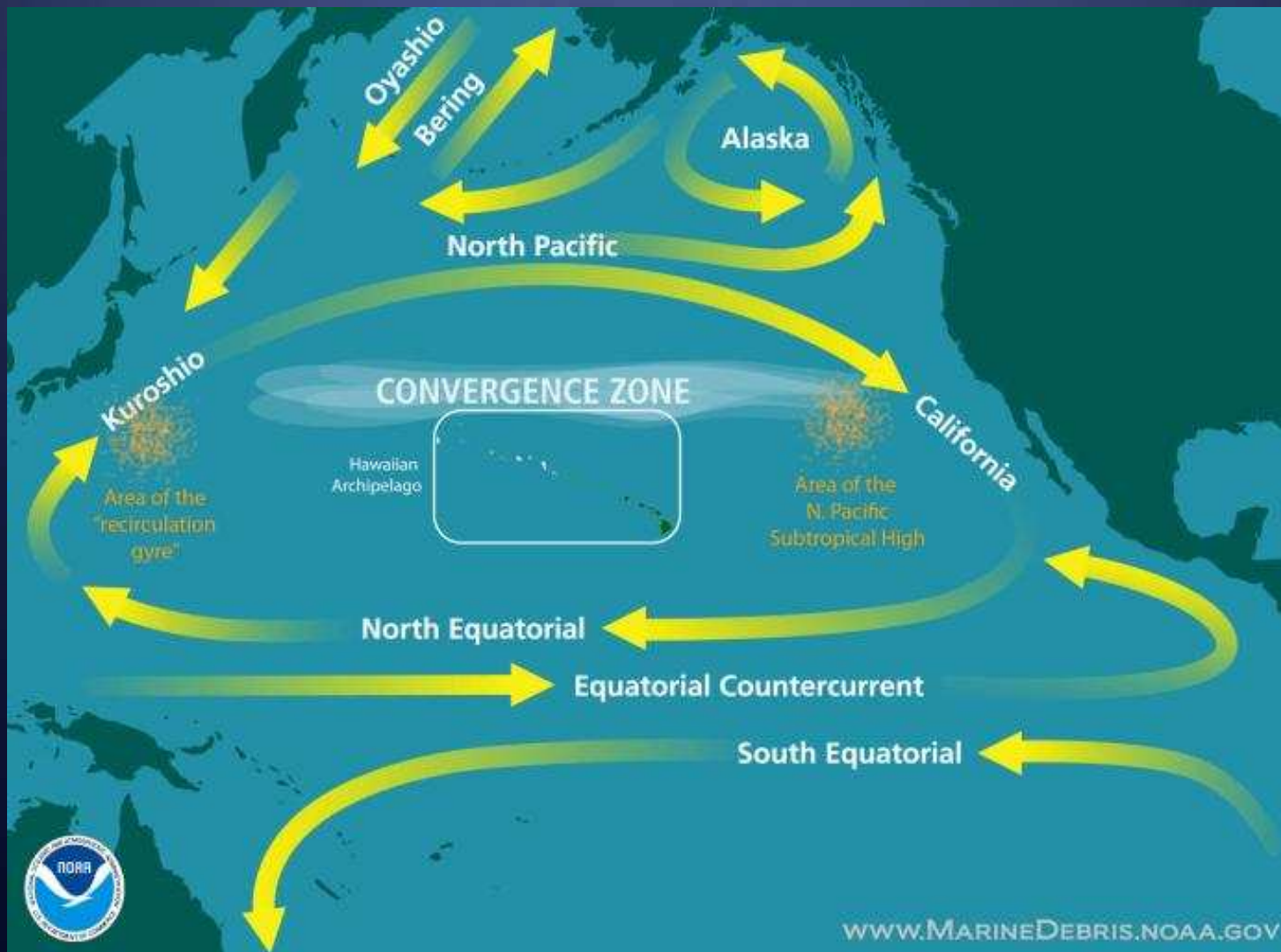
- Patches and fields – By passes of April 14, debris no longer visible

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Marine Debris - Movement



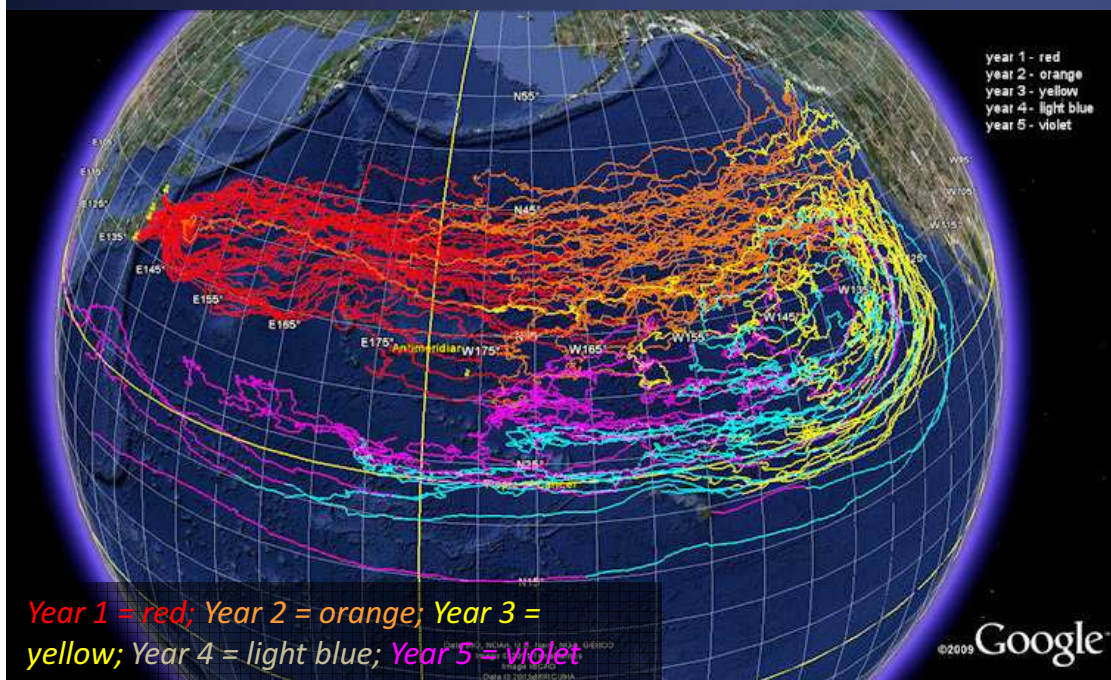
www.MARINEDEBRIS.NOAA.GOV

Marine Debris

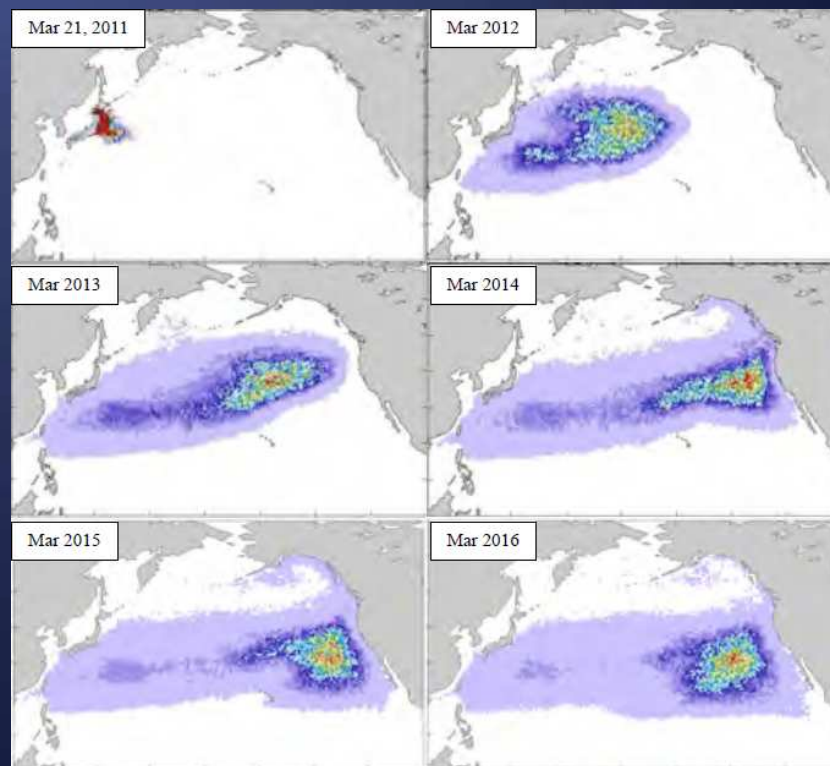
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Modeling



NOAA OSCURS Model outputs



UH SCUD model outputs

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JTMD – What we know

- Tsunami debris **added to an existing problem**
- Likely much of the **debris sank near shore off Japan coast.**
- **Debris is dispersed** and not in large concentrations or fields.
- **Radioactive debris?**
 - Consensus that contamination of debris is highly unlikely
- **Sightings**
 - Two sightings of confirmed JTMD, many more unconfirmed
- **Computer models' predictions (all gross estimates)**
 - **Northwestern Hawaiian Islands** as early as this winter (Jan/Feb 2012)
 - **West Coast** of North America (incl. SEAK) in 2013
 - Circle **back to Hawaii** (main Hawaiian Islands) in 2014 to 2016

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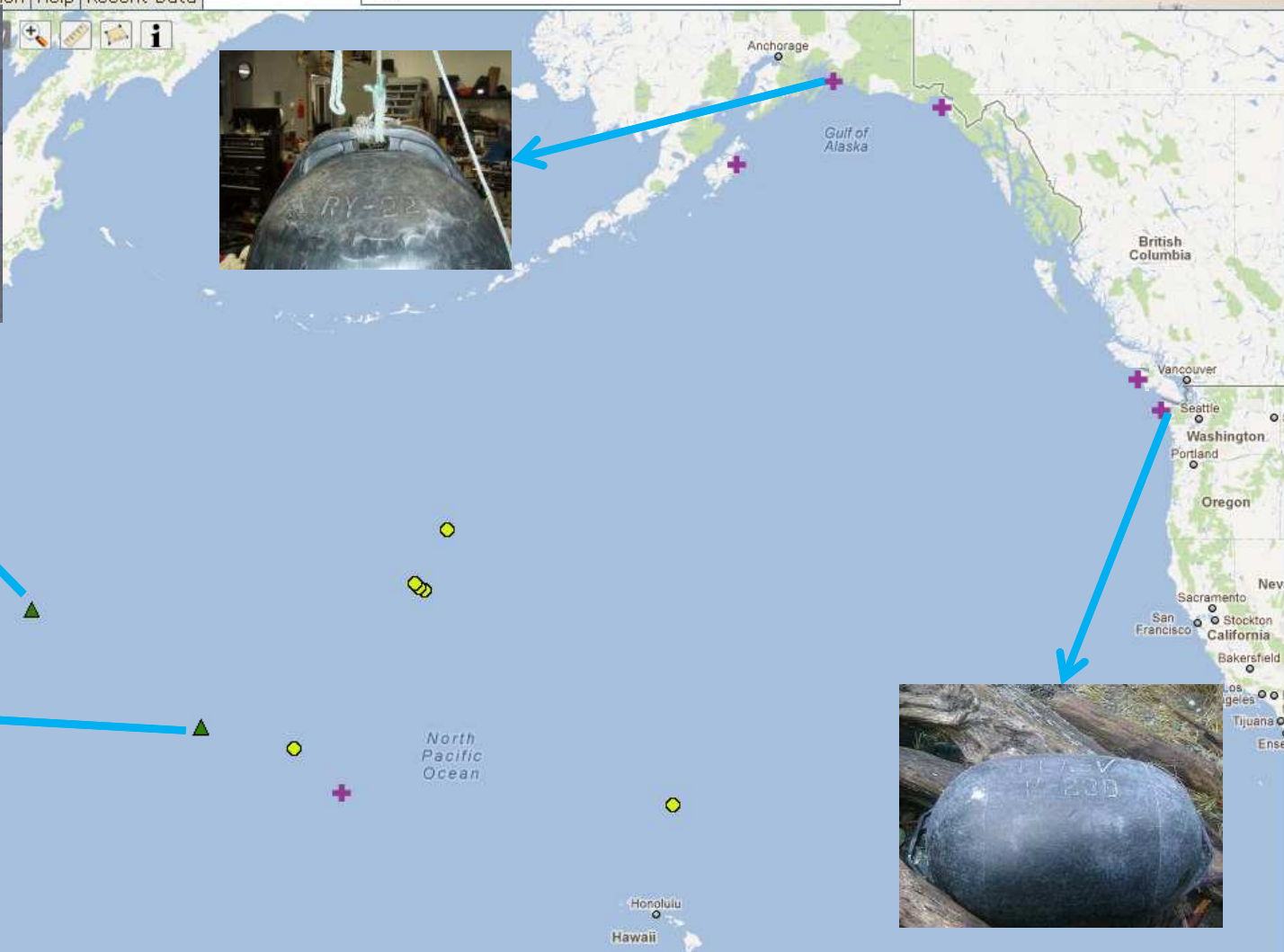


JTMD - Sightings

ERMA | Environmental Response Management Application
Pacific Islands


Information Help Recent Data

Find



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Home

About the Program

Marine Debris Act/201

Partners & Partners

Funding Opportunities

Environmental Monitoring

Site News & Media

Photo Galleries

Japan Tsunami Debris: Information and FAQs

**TSUNAMI AFTERMATH-
MARINE DEBRIS**

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MARINE DEBRIS

Marine Debris
(Info/16)

Impacts

Types and Consequences

Sources

Management

Great Pacific Garbage Patch

Plastic Debris

FAQs - Japan Tsunami Debris

FAQs - Marine Debris

FAQs - Endlands

could reach the predictions by amount of uncertainty where it will go.

Debris FAQs

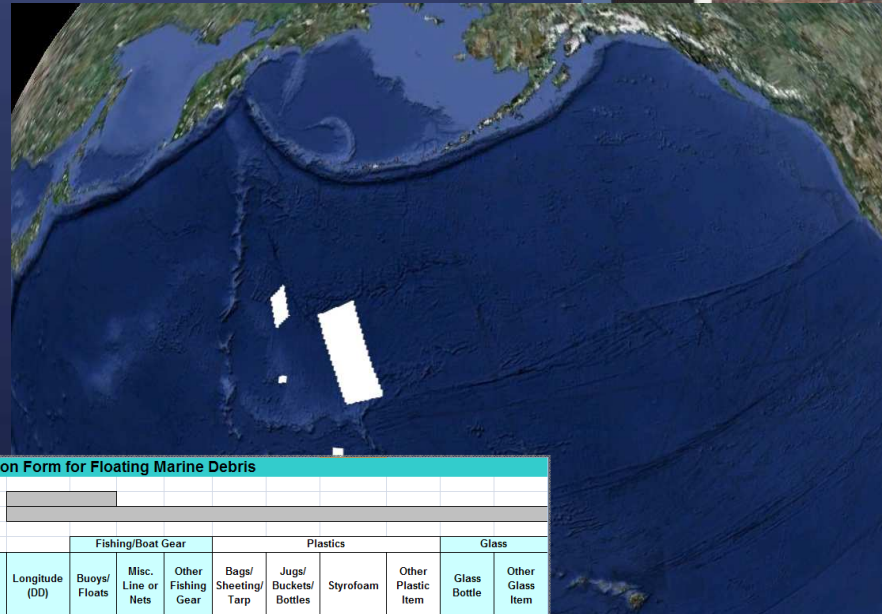
Debris one page

Debris contact:

Debris one page

led from land, it into the ocean.

1. Detection
2. Modeling
3. Monitoring
4. Planning / Preparedness
5. Communication

[illegible]

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JTMD – What YOU can do!

- Report sightings
 - disasterdebris@noaa.gov
- Volunteer
 - Cleanup
 - Monitoring Programs
- Stay Informed
 - <http://marinedebris.noaa.gov>



Photo: Gulf of Alaska Keeper

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Thank You

Peter Murphy

peter.murphy@noaa.gov

Marinedebris.noaa.gov

Report JTMD Sightings to:
disasterdebris@noaa.gov

A Roundtable Discussion with U.S. Senator Lisa Murkowski

Marine Debris from the 2011 Japanese Tsunami in Alaska

January 20, 2012
University of Alaska, Anchorage



David Gaudet
Marine Debris Program Coordinator
Marine Conservation Alliance Foundation



Marine Conservation Alliance Foundation

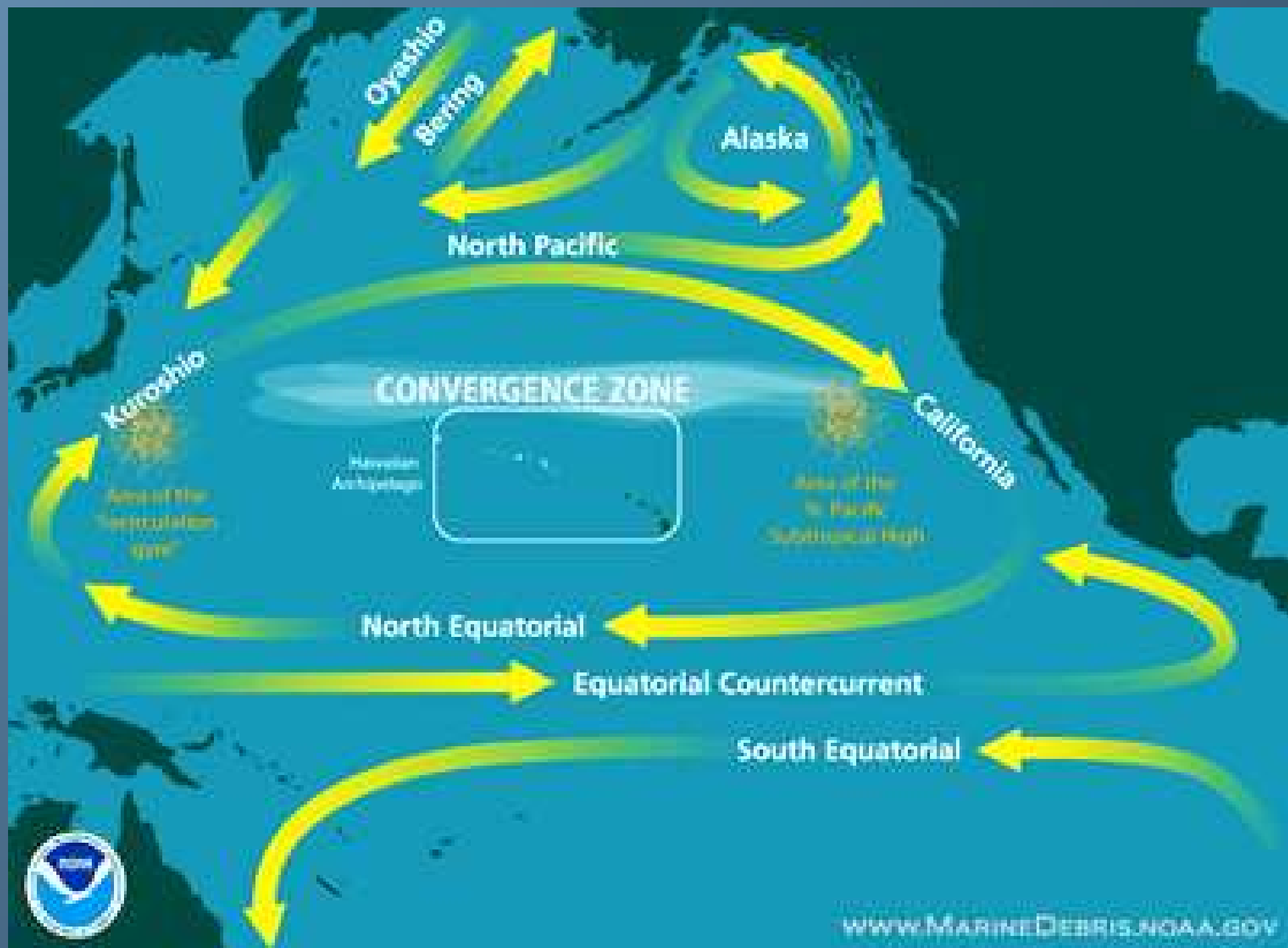
- MCAF is the Non-Profit arm of MCA
 - MCA is group of Bering Sea and North Pacific groundfish, crab, and other organizations as well as communities
- MCAF does Marine Debris Cleanup and Cooperative Research
 - Established in 2003
 - Have worked with 22 Native/Tribal, Non-Profit and other groups Statewide
 - Conducted more that 72 individual cleanups
 - Removed more than 2.0 million lbs of debris
 - Conducted more than 1,000 miles of aerial surveys

Completed & Proposed Projects (since 2003)

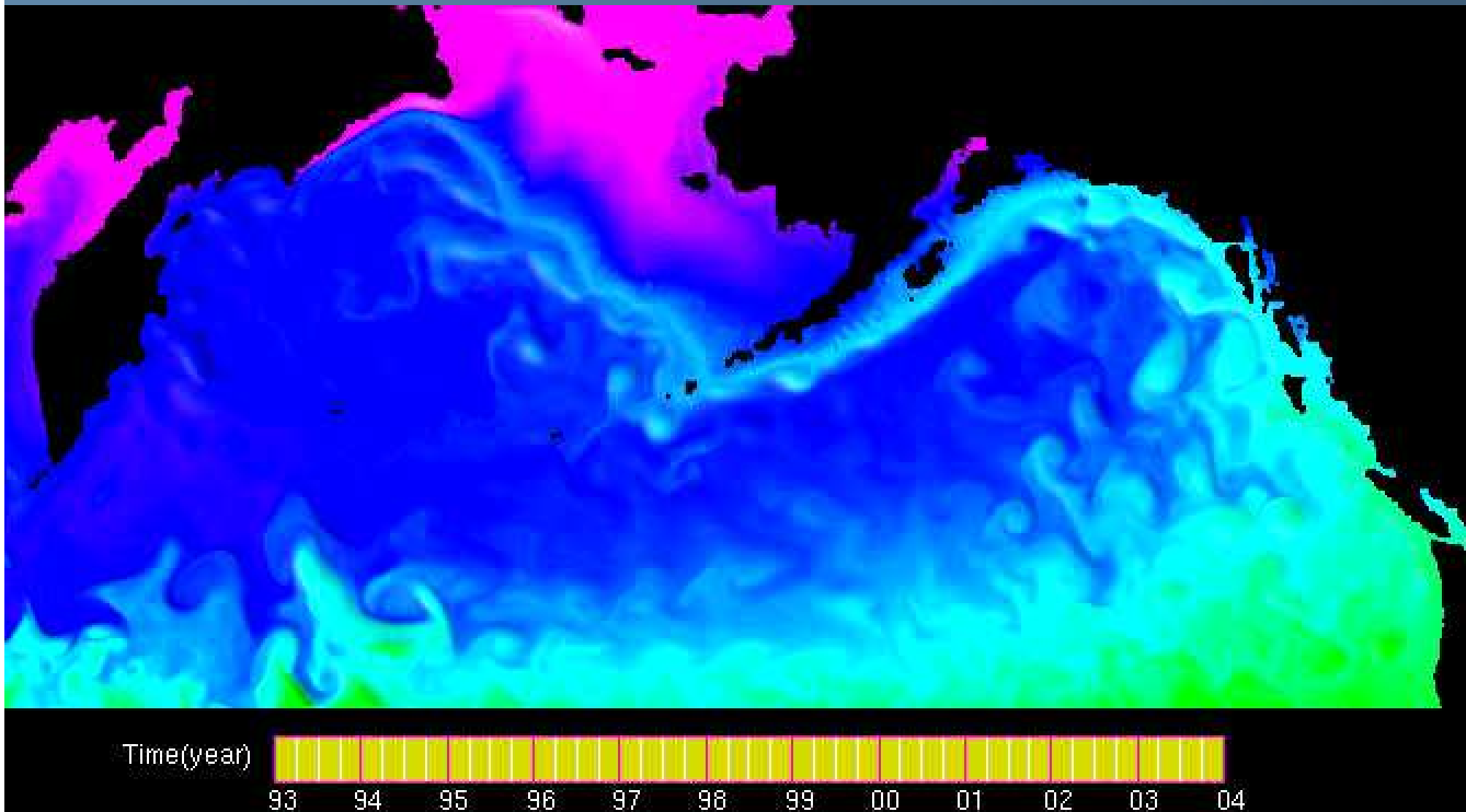


10/11



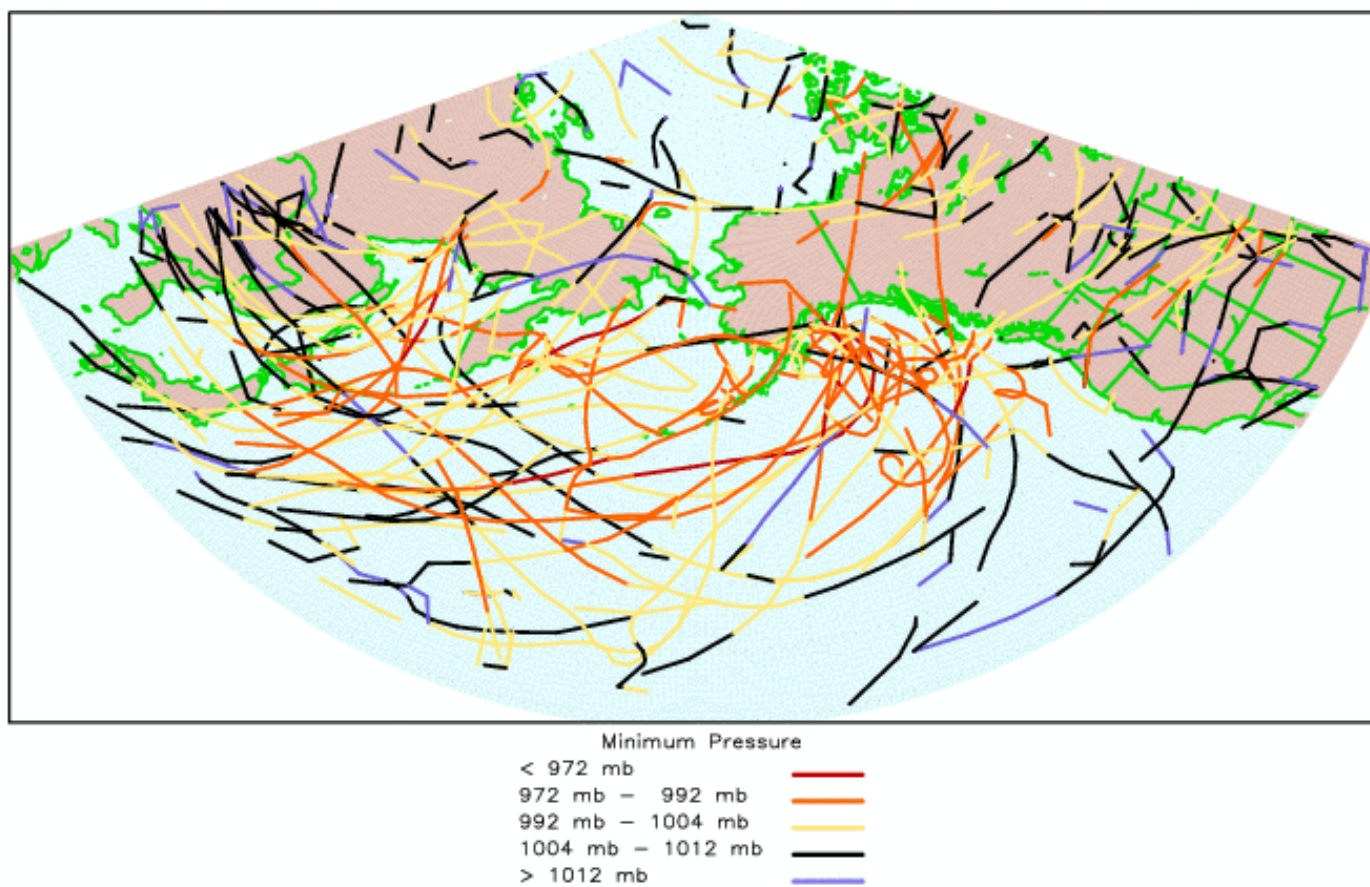


Alaska Coastal Current



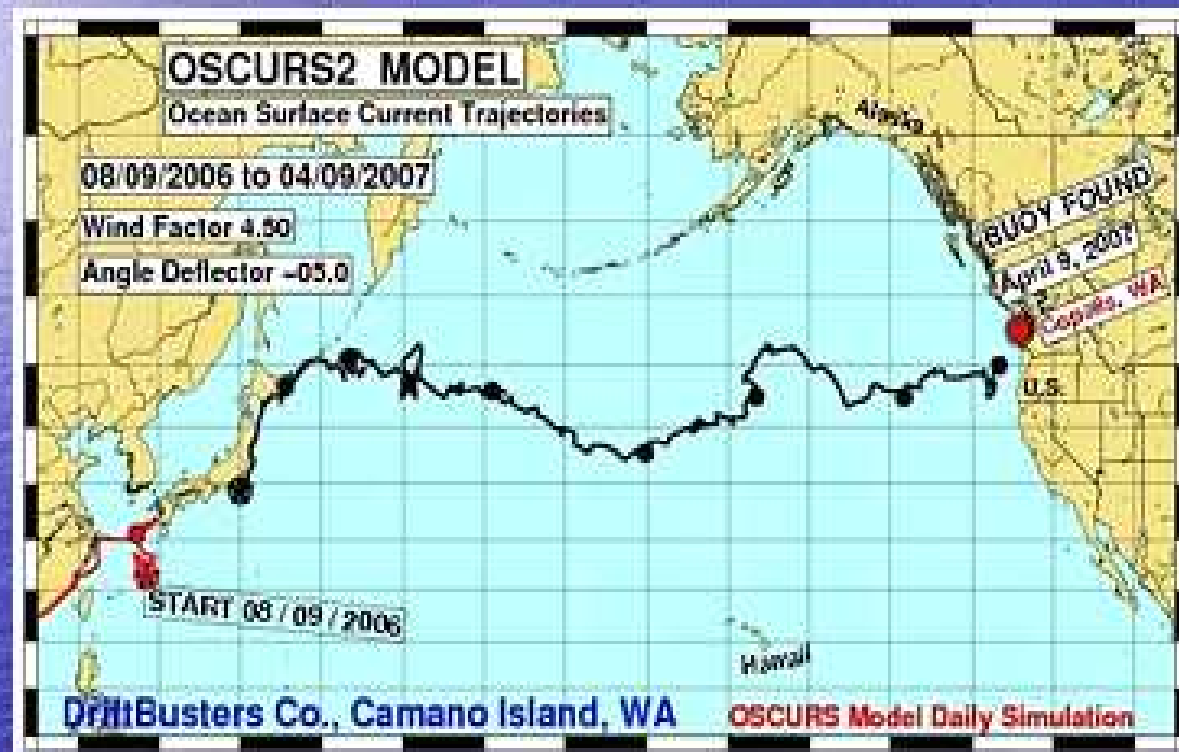
Yi Chao, Jet Propulsion Lab, NASA

Storm Tracks--GR2--OND--2010



Map courtesy of Curtis Ebbesmeyer and Jim Ingraham (DriftBusters Co) previously published in the [Beachcombers' Alert](#) newsletter.

Ginoza Buoy Drift: 8 months across Pacific



Monitoring Sites



MCAF Monitoring Program Points

- Surveys will be weekly for 12 weeks
- Beaches are selected based on the contractors experiences
- Surveyors will monitor radiation
- Possible objects will be photographed
- All debris will be evaluated for weight by category to determine if there is a change in composition and quantity
- If any items are found that may be mementos, they are to be removed and safely stored.
- If any body parts are found, local authorities and MCAF are to be notified immediately
- Data it to be sent to MCAF immediately following survey

Recent Debris on Yakutat Beaches



Recent Yakutat Debris



Debris from Kodiak



Japanese Tsunami Debris Monitoring Program



The Marine Conservation Alliance Foundation (MCAF) is monitoring Alaska's beaches for possible debris from the March 2011 Japanese Tsunami. As a part of this program, MCAF is asking anyone who finds an object that they believe was from the Japanese Tsunami to photograph it and send the picture along with the location to MCAF.



MCA Foundation
907-523-0731
marinedebris@ak.net
www.MCAFoundation.org

Summary

- The “high windage” debris is appearing on the coast now
 - MCAF will monitor the deposition this winter
- The main body of the debris appears to be on track with the model and projected to reach the coast in 2013
 - MCAF will determine at a later date if a monitoring program is necessary

www.mcafoundation.org



Alaska Department of Environmental Conservation Division of Environmental Health

Safety of Alaska's food sources



Kristin Ryan

Program Director

Alaska Department of Environmental Conservation

Division of Environmental Health

Anchorage, Alaska

Radioisotopes of concern:

- Cesium 134, with a half life of 2 years
- Cesium 137, with a half life of 30 years
- Iodine 131, with a half life of 8 days

Half life means the level of radiation drops by half in that time frame.

Risk characterization

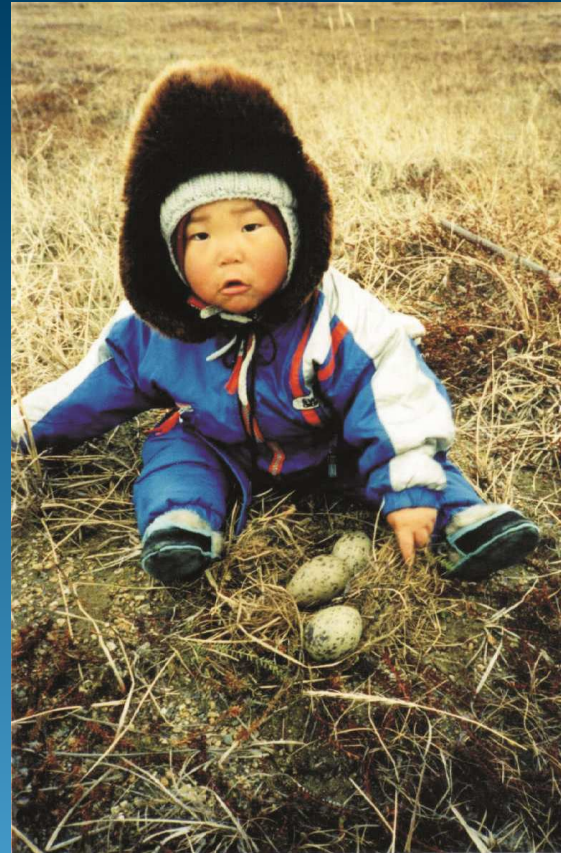
Does radiation release from the Fukushima nuclear accident pose a risk to Alaska's fisheries, wild foods or human health?

And the answer is NO



Exposure Assessment

- Air monitoring
- Water monitoring
- Modeling
- Sampling

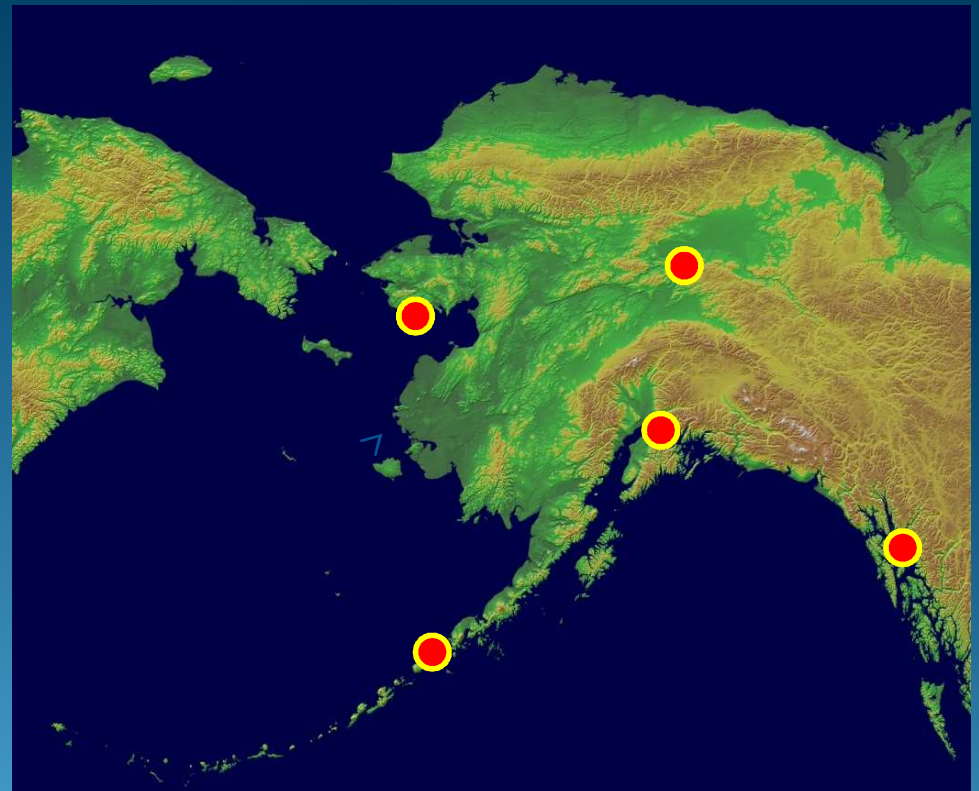


Air Monitoring

- EPA RadNet Monitors

- ▣ Nome
- ▣ Dutch Harbor
- ▣ Fairbanks
- ▣ Anchorage
- ▣ Juneau

- All results thousands of times below conservative levels of concern....



NOAA National Geophysical Data Center

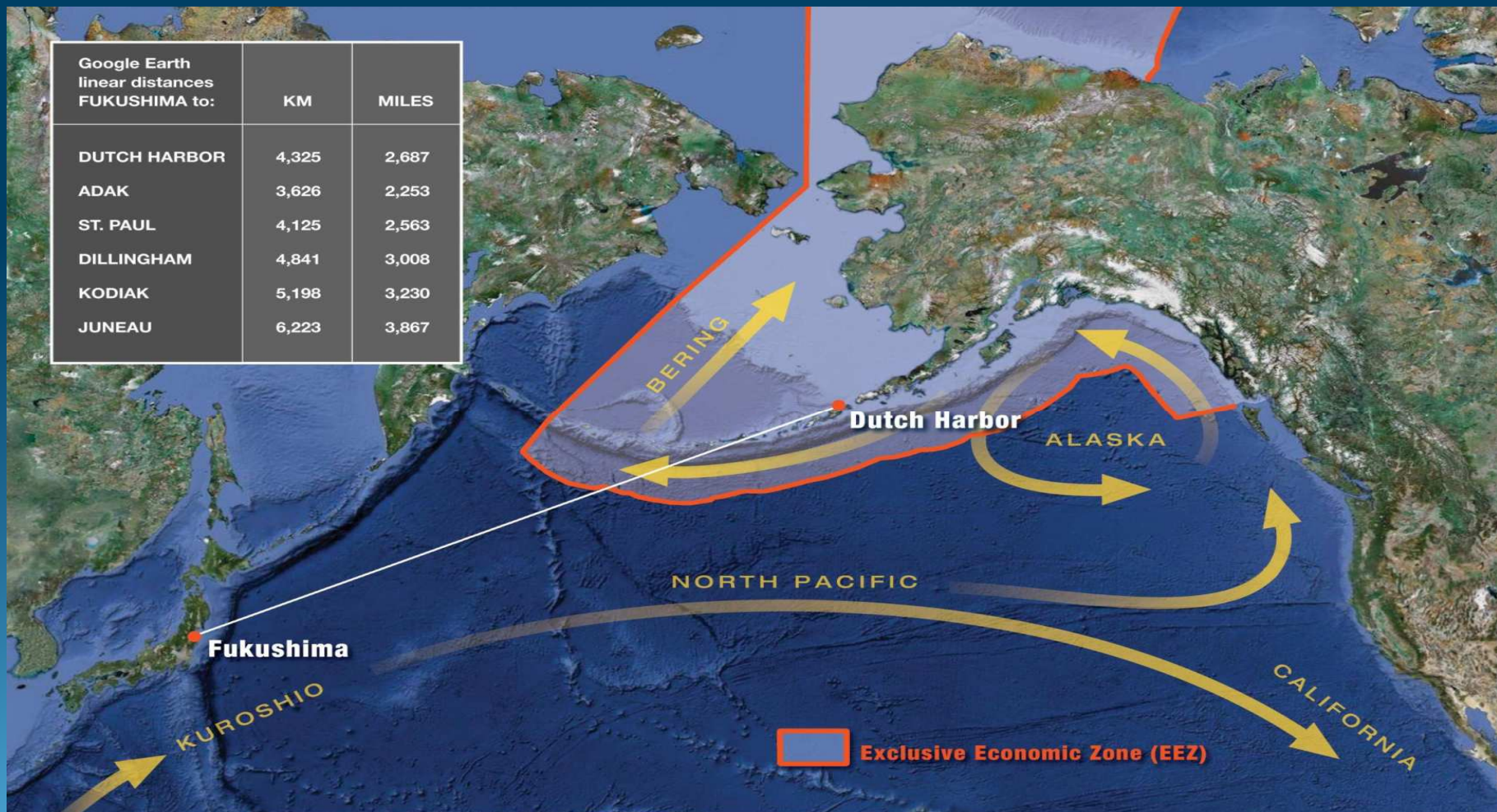
Water Monitoring

Japan – marine waters tested & found to meet drinking water standards 30km from shore

Alaska

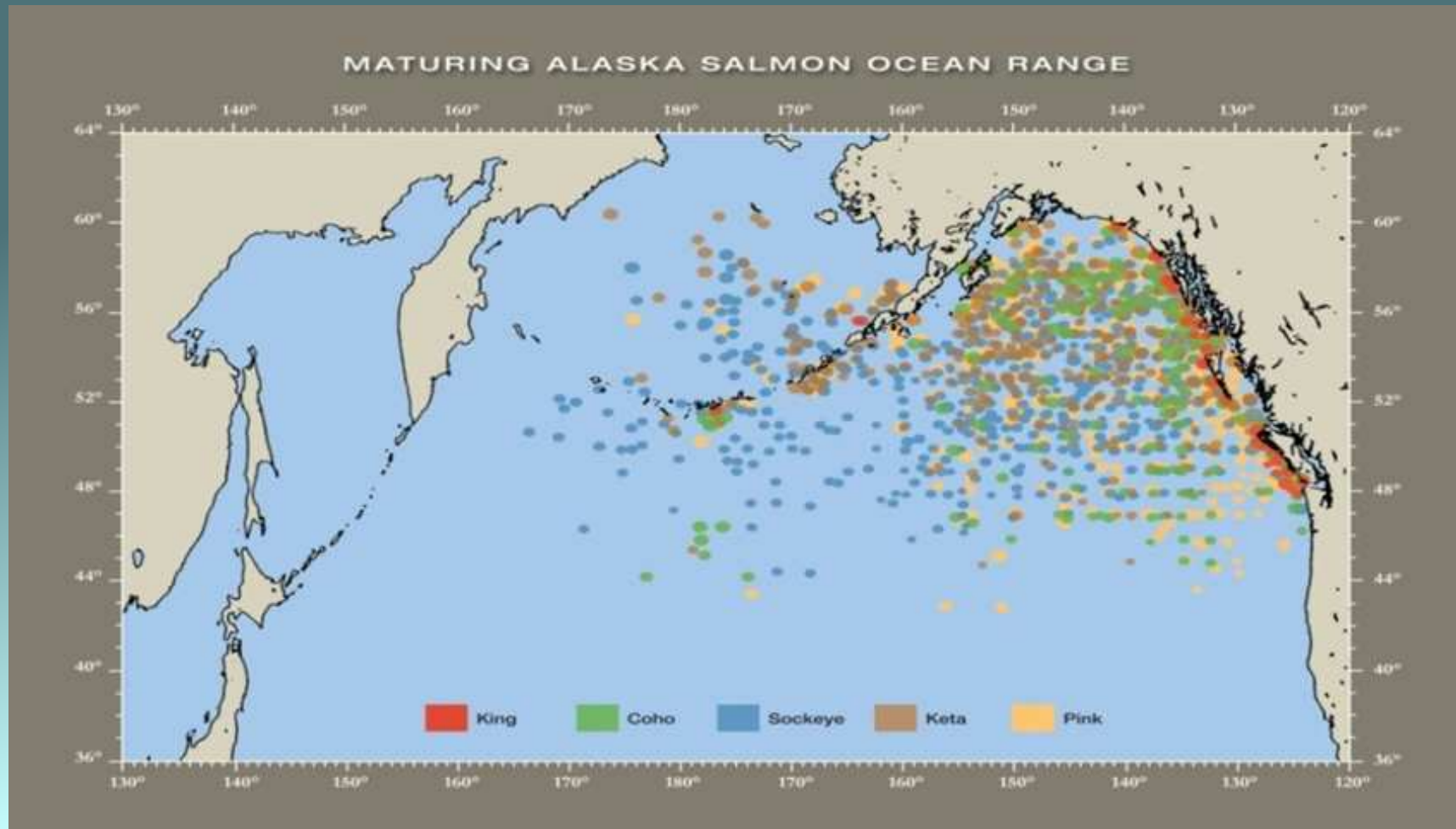
- ocean current modeling would preclude potential contamination reaching Alaska
- AWWU tested Anchorage's drinking water resource
- RadNet testing of Fairbanks drinking water source
- DOE Amchitka surface water sampling

Distance from Fukushima and North Pacific Currents



Courtesy Alaska Seafood Marketing Institute

Distribution of Alaska Salmon



Courtesy ASMI

Fish Monitoring

- FDA has not detected levels of concern in fish & continues to monitor
- FDA's latest data as of January 10, 2011 is available at:
- <http://www.fda.gov/newsevents/publichealthfocus/ucm247403.htm#sofar>
- EPA, FDA, and NOAA maintain that seafood is safe & World Health Organization reinforces this
- European Commission monitoring fish in the Food and Agriculture (FAO) Major Fishing Area 61 (Northwest Pacific) for Cesium-134 and Cesium-137.

Other Sampling Efforts

- North Slope Borough – caribou, lichen & marine mammals (seals, bowhead whale)
- Aleutian Pribilof Island Association – lichen
- DOE Amchitka Island – fish, shellfish, sediment, and numerous marine species

Potential Data Gaps

Although available resources for DEC suggest that the risk of radionuclide impacts to Alaska is low, there may be potential data gaps that warrant our consideration.

- Long-term deposition of contamination
 - ◀ Air
 - ◀ Water
 - ◀ Land
 - ◀ Food chain

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